Name:

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Geometry, Period

Due Date: Wed, 4 Feb 2015

**Geometry**

**Homework**



**Prove that the two triangles are congruent using a 2-column proof. Color-code corresponding sides.**

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. | 1. given |
| 2. | 2. |
| 3. | 3. |
| 4. ΔABC ≅ ΔCDA | 4. |

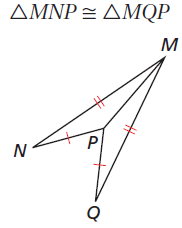
1. ΔABC ≅ ΔCDA

C

A

D

B





|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. same line (reflexive property) |
| 4. | 4. |

1. Given: ΔRPQ is an isosceles triangle with vertex P, and line segment PS bisects line segment RQ.   
   ΔRPS ≅ which triangle? Prove it.

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. | 1. isosceles triangles have… |
| 2. | 2. a bisector… |
| 3. | 3. |
| 4. | 4. |

P

R

S

Q

1. Answer the following based on the congruence you proved in #3. SHOW YOUR WORK (always!)

4a) \_\_\_\_\_\_\_\_\_\_

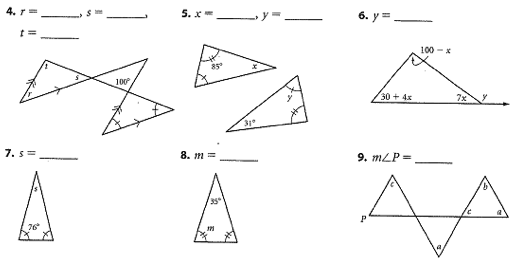
4b) If *m∠R =55°,* then *m∠RPS = \_\_\_\_\_\_\_\_\_\_\_\_\_\_*

4c) If the base of triangle PQR is 6 feet and the height is 4 feet, what is the perimeter?

For #5 & 6, decide whether the congruence statement is true or false. If it is false, fix the statement and *explain* your reasoning in complete sentences. If it is true, color code the congruent parts to demonstrate.

|  |  |
| --- | --- |
| **5.** Δ*IHJ* ≅ Δ*JHK* | **6.** Δ*LPS* ≅ Δ*PLN* |

Determine the measure of the angles below. YOU MUST SHOW YOUR WORK! State the postulate /theorem /property you used to find the angles. For example, vertical angles. **SHOW** the math below, and label all parts!

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